

Serial No.: 10/665,963

Examiner: D. Davis

Title: MAGNETIC RECORDING MEDIUM, METHOD FOR PRODUCING THE SAME, AND MAGNETIC RECORDING...

Page 7 of 9

REMARKS/ARGUMENTS

Reconsideration is requested in view of the following remarks. Claims 1, 2, 4, 5, 7 and 8 have been editorially revised. Claim 28 has been added. Support for the revision of claim 1 can be found in original claim 5. Support for the revision of claim 2 can be found in the specification on page 13, lines 2-5, among other places. Support for the revision of claim 4 can be found by extrapolation applied to Figure 5 that yields the shortest mark length of 10 nm. Further support for the revision of claim 4 can be found by considering that if a plurality of layers of three elements (Tb, Fe and Co) are laminated periodically and in a super lattice manner so that each layer has a thickness of 1 nm to 2 nm, such as recited in the specification on page 19, lines 32-37, then the thickness of the recording layer will be 10 nm. Thus, it is reasonable to consider that the lower limit of the mark length is about 10 nm. Support for the revision of claims 7 and 8 are found in the specification, particularly with reference to the description of Embodiment 1. Specifically, the recording layer 15 that is formed in the magnetic recording medium 1 according to Embodiment 1 has the configuration of a lamination structure in which Tb and FeCo are laminated periodically with a thickness of 1.5 nm. This embodiment is however, not limited to the described structure. Equivalent effects can be obtained with a lamination structure having a lamination period between 0.4 nm and 2 nm, inclusive, where the thickness of the recording layer 15 is 50 nm or more, preferably, between 60 nm and 200 nm, inclusive, as described on page 14, lines 300 to page 15, line 3 of the specification. Support for newly added claim 28 can be found in claim 1 as well as numerous places in the specification, including, but not limited, to page 3, lines 1-8, page 10, lines 31-36 and page 13, lines 6-12, for example. Claims 1-8 and 28 are pending in the application.

Claim Rejections – 35 USC §112

Claims 2, 4, 7 and 8 are rejected under 35 U.S.C. §112, first paragraph.

Regarding claim 2, the rejection asserts claim 2 is claiming a product of the coercive force and saturated magnetization relationship that approaches infinity. Claim 2 has been editorially revised to conform with 35 U.S.C. §112, first paragraph. Regarding claims 4,

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Page 8 of 9

7 and 8, the rejection asserts these claims are claiming a thickness that includes every value up to and approaching zero. Claims 4, 7 and 8 have been editorially revised to conform with 35 U.S.C. §112, first paragraph.

Claim Rejections – 35 USC §102

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. §102(b) as anticipated by Shiratori et al. (US 6,027,825). Applicants respectfully traverse this rejection.

The rejection asserts the invention of Shiratori et al. includes a super-latticed structure. This assertion is not correct. Although the table in column 15 of Shiratori et al. shows the lamination of a first magnetic layer, a second magnetic layer and a third magnetic layer, these layers are not laminated in a super-lattice manner as recited in claim 1 (i.e., a lamination structure where the specific elements are laminated individually); and the configuration of Shiratori et al. is different from the structure of claim 1. Further, the structure of Shiratori et al. cannot increase $M_s \cdot H_c$ sufficiently to produce the effects achievable using the structure of claims 1, 3, 5 and 6.

For at least these reasons, claim 1 is patentable over Shiratori et al. Claims 3, 5 and 6 are also patentable over Shiratori et al. since these claims depend ultimately from claim 1 that is allowable. Applicants do not concede the correctness of the rejections.

Claim Rejections – 35 USC §§102/103

Claims 2, 4, 7 and 8 are rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Shiratori et al. Applicants respectfully traverse this rejection for at least the same reasons discussed above regarding the rejection of claim 1, 3, 5 and 6. Claims 2, 4, 7 and 8 are patentable over Shiratori et al. since they depend ultimately from claim 1 that is allowable. Newly added claim 28 is also believed to be patentable over Shiratori et al. for the same reasons applied to claim 1 above. Applicants do not concede the correctness of the rejections.

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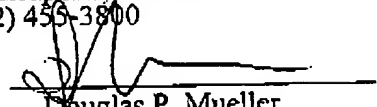
Page 9 of 9

Favorable reconsideration in the form of a Notice of Allowance is requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone Applicants' primary attorney-of-record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.

Respectfully submitted,

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